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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,899	10/20/2004	Hirofumi Sakamoto	121572	6470

25944 7590 07/13/2007

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EXAMINER	
BALDWIN, GORDON	
ART UNIT	**PAPER NUMBER**
1775	

MAIL DATE	DELIVERY MODE
07/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,899	SAKAMOTO, HIROFUMI	
	Examiner	Art Unit	
	Gordon R. Baldwin	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20050112*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-3 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Narita Yoshinori (Japanese (Publication number 55-147154) (Application Number 54-055556)).

Consider claim 1, Yoshinori teaches a honeycomb structure with a plurality of partition wall that are in a quadrilateral sectional shape defined with the walls being at right angles to each other with the portion of the honeycombs structure in the outer circumference being made thicker in order to increase the strength of the partition wall, which is considered to include compression strength. (Astract) By this teaching, a final product of a honeycomb structure with a stronger outer periphery with a higher compression strength is considered to be taught. While the language of applicant's claim one states, "the joining of a plurality of honeycomb segments", may be considered to be different than the Yoshinori reference, this construction is considered to be an intermediate step in the creation of a final article, which is a unitary article functioning in the same manner and having the same characteristics as the Yoshinori reference.

Consider claims 2 and 3, Yoshinori teaches a honeycomb structure having honeycomb segments in the outer periphery of the honeycomb structure where the

partition walls are perpendicular to the fluid passage with the outer portion of the honeycomb structure having thicker partition walls than the inner partition walls, providing greater compression strength. (Fig. 2) Additionally, in figure 2 of Yoshinori is considered to show the same arrangement and orientation of partition walls to the outer skin as the applicant, including the direction of the cell to form an angle of 20 to 70 degrees with respect to a tangent to the outer periphery of the honeycomb structure.

Consider claim 6, Yoshinori teaches in figure 2 that the partition walls connect the opposing corners of the respective cells being rectangular in shape in addition to having triangular sectional shapes in a radial direction. (Fig. 2 and 4)

Consider claim 7, Yoshinori teaches in figure 2, what is considered to show the same arrangement and orientation of partition walls to the outer skin as the applicant including the direction of the cell to form an angle of 0 degrees or more to less than 20 degrees, or more than 70 degrees to 90 degrees with respect to a tangent to the outer periphery of the honeycomb structure at the positions where the respective partition walls contact with the outer peripheral wall.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narita Yoshinori (Japanese (Publication number 55-147154) (Application Number 54-

055556)) as applied to claims 1-3 above, and further in view of Ogawa (Japanese Application No. JP55032232).

Consider claim 4, Yoshinori teaches the claimed invention except that Yoshinori does not necessarily teach that the porosity of the outer partition walls is smaller than the porosity of the inner partition walls. However, Ogawa teaches that it would be advantageous to make a ceramic honeycomb structure where the outer peripheral walls have a decreased porosity, than the other partition walls of the honeycomb structure. (Abstract) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the honeycomb structure of Yoshinori with the decreased porosity of Ogawa to increase the mechanical strength of the of the honeycomb structure. (Ogawa, abstract)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narita Yoshinori (Japanese (Publication number 55-147154) (Application Number 54-055556)) as applied to claims 1-3 above, and further in view of Tomita (U.S. Pat. No. 4,436,538).

Consider claim 5, Yoshinori teaches the claimed invention except that Yoshinori does not necessarily teach that the cell density is greater in the outer partition walls, however, Tomita teaches the increase of cell densities at the outermost periphery of the filter structure. (Col. 2 lines 50-58, Col. 4 lines 27-45) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the honeycomb structure of Yoshinori with the filter structure of Tomita to increase the mechanical strength of the honeycomb structure. ((Col. 1 lines 40-45)

Response to Arguments

Applicant's arguments filed 4/12/2007 have been fully considered but they are not persuasive. Regarding the applicant's arguments that Yoshinori does not teach the features of the claimed invention, specifically the quadrilateral shape of the outer portion of the honeycomb partition walls, it is understood that Yoshori does teach the use of radially extending ribs being arranged about an inner peripheral tubular wall separating the peripheral portion of the inner honeycomb structure. However, this is not considered to be the only embodiment shown by Yoshori. In figure two of Yoshori, a honeycomb structure is shown with no inner peripheral tubular wall, but with only one outer wall or skin (5) with quadrilateral partition walls where the outer circumference of the partition walls (7) is made thicker than the inner partition walls (6) to increase the strength of the honeycomb structure. Therefore, Yoshori is considered to teach the claimed invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB

JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
7/5/7